

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: NEO-RAY

Report Number: P242198

Luminaire Tested: **S121RDR-S880D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242198  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121RDR-S880D840-X4F0-XX-UDD-F-W  
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2880.2 lumens  
Efficiency: N/A  
Efficacy: 82.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 0.92 / 1.09  
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')  
CIE Type: Direct

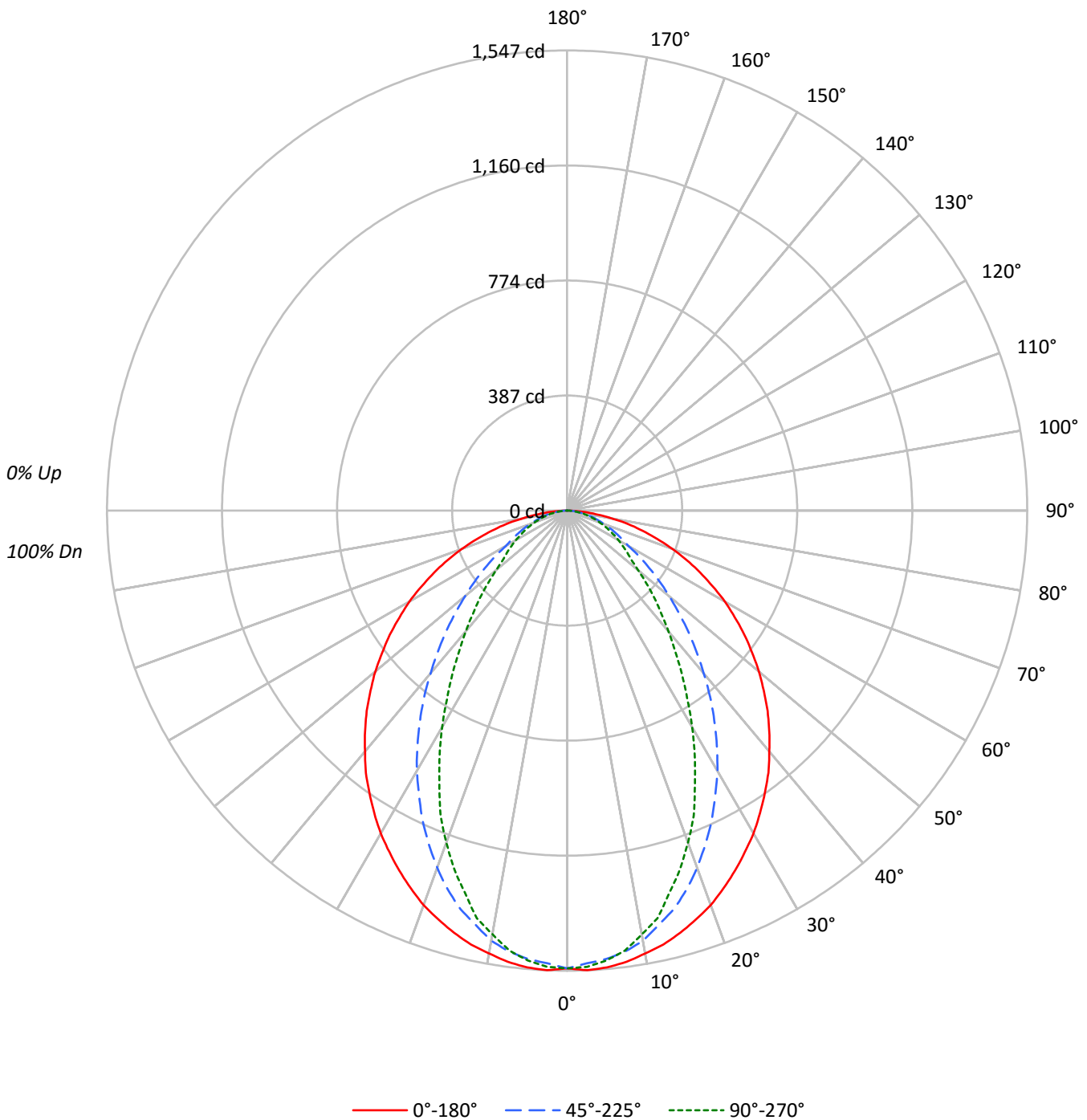
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89					87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	80	77					75				
3	94	84	77	71	91	83	76	70	80	74	69	77	72	68	75	70	67					65				
4	86	76	68	62	84	74	67	61	72	65	60	70	64	60	68	63	59					57				
5	80	68	60	54	78	67	60	54	65	59	53	63	57	53	62	56	52					50				
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47					45				
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42					40				
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38					37				
9	61	49	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35					33				
10	58	45	38	33	56	45	37	33	44	37	33	43	37	32	42	36	32					31				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	45600	45600	45600
5°	45849	45007	45159
10°	45488	44170	43512
15°	45074	42546	40767
20°	44506	40281	37440
25°	43661	37597	33219
30°	42873	34586	28770
35°	41922	31209	24361
40°	40895	27644	20523
45°	39933	24123	17323
50°	38822	20660	14308
55°	37586	17429	12775
60°	36326	14116	11828
65°	34578	12732	10923
70°	32573	11487	10041
75°	29925	10464	9284
80°	26158	9231	8344
85°	21452	7887	7003



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.1	5.0
10°-20°	391.8	13.6
20°-30°	534.9	18.6
30°-40°	555.9	19.3
40°-50°	485.7	16.9
50°-60°	367.2	12.7
60°-70°	242.5	8.4
70°-80°	125.0	4.3
80°-90°	33.2	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1070.7	37.2
0°-40°	1626.6	56.5
0°-60°	2479.5	86.1
0°-90°	2880.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2880.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1539	1539	1539	1539	1539	
5°	1542	1532	1513	1525	1518	146
15°	1469	1448	1387	1351	1329	414
25°	1336	1283	1150	1055	1016	615
35°	1159	1056	863	721	674	725
45°	953	810	576	447	413	734
55°	728	552	337	256	247	650
65°	493	308	182	160	156	488
75°	261	121	91	84	81	278
85°	63	26	23	22	21	73
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1539.0	1539.0	1539.0	1539.0	1539.0
2.5°	1546.7	1539.0	1523.5	1537.7	1535.1
5°	1541.5	1532.5	1513.2	1524.8	1518.3
7.5°	1529.9	1519.6	1495.2	1499.0	1491.3
10°	1511.9	1500.3	1468.1	1461.7	1446.2
12.5°	1493.9	1475.8	1425.6	1412.7	1403.7
15°	1469.4	1447.5	1387.0	1350.9	1329.0
17.5°	1441.1	1411.5	1335.5	1286.5	1263.4
20°	1411.5	1372.8	1277.5	1210.6	1187.4
22.5°	1374.1	1329.0	1214.4	1134.6	1111.4
25°	1335.5	1282.7	1150.0	1054.7	1016.1
27.5°	1294.3	1229.9	1077.9	971.0	928.5
30°	1253.1	1174.5	1010.9	882.2	840.9
32.5°	1206.7	1119.1	936.2	801.0	752.1
35°	1159.0	1056.0	862.8	721.2	673.5
37.5°	1111.4	998.1	789.4	646.5	596.3
40°	1057.3	937.5	714.7	567.9	530.6
42.5°	1005.8	874.4	643.9	507.4	467.5
45°	953.0	810.0	575.7	446.9	413.4
47.5°	896.3	746.9	508.7	394.1	360.6
50°	842.2	680.0	448.2	342.6	310.4
52.5°	783.0	616.9	391.5	289.8	271.7
55°	727.6	552.5	337.4	256.3	247.3
57.5°	668.4	490.7	287.2	231.8	221.5
60°	613.0	428.8	238.2	206.1	199.6
62.5°	551.2	369.6	207.3	182.9	176.4
65°	493.2	307.8	181.6	159.7	155.8
67.5°	435.3	255.0	157.1	139.1	135.2
70°	376.0	202.2	132.6	119.8	115.9
72.5°	318.1	154.5	110.8	100.5	97.9
75°	261.4	121.1	91.4	83.7	81.1
77.5°	211.2	92.7	72.1	65.7	64.4
80°	153.3	68.3	54.1	50.2	48.9
82.5°	104.3	46.4	38.6	36.1	33.5
85°	63.1	25.8	23.2	21.9	20.6
87.5°	25.8	11.6	10.3	9.0	9.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)